ABSTRACT OF THE DISCLOSURE

A torque transfer mechanism is provided for controlling the magnitude of a clutch engagement force exerted on a multi-plate clutch assembly that is operably disposed between a first rotary and a second rotary member. The torque transfer mechanism includes a clutch actuator for generating and applying a clutch engagement force on the clutch assembly. The clutch actuator includes a wedge fork having a gear rack segment and a tapered tang segment and a reaction block defining a tapered edge in sliding engagement with the tapered tang segment. An electric motor drives a pinion that is meshed with the gear rack to cause bi-directional linear movement of the wedge fork which causes corresponding sliding movement of the reaction block relative to the clutch assembly.